

WHAT IS CLAIMED IS:

1           1. A multiple contact connector comprising:  
2           a)       one or more so-called male plugs (6), each comprises an elongated and  
3       electrically insulated support (60) and, along the longitudinal axis of said support (60), a  
4       number of electrically conductive contact zones (61);  
5           b)       a so-called female socket (7), comprises an elongated and electrically  
6       insulated body (70) and, along the longitude axis of said body, at least one longitudinal and  
7       electrically insulated housing (71), wherein said housing (71) further comprises a number of  
8       electrically conductive contact elements (72) positioned along the longitudinal axis of said  
9       housing;  
10          c)       wherein said contact zones (61) and said contact elements (72) are facing each  
11       other so that, when said support (60) are put into said housing (71), said contact zones (61)  
12       contact with said contact elements (72) and form electrical connections; and  
13          d)       a tightening device (8) for maintaining said support (60) in said housing (71)  
14       and to exert a radial pressure of contact zones (61) on contact elements (72) to ensure  
15       electrical connections.

1           2. The connector of Claim 1, wherein said support (60) of said male plug (6) has a  
2       geometry which is complementary to that of housing (71) of said female socket (7).

1           3. The connector of Claim 2, wherein said support (60) has at least two flat lateral  
2       surfaces (60a) while said body (70) comprises at least two later surfaces (71a) of said housing  
3       (71), so that said flat lateral surfaces (60a) of said support (60) correspond geometrically to  
4       said lateral surfaces (71a) of said body (70).

1           4. The connector of Claim 1, wherein said support (60) has notches (62) in which said  
2   contact zones (61) are arranged, these notches (62) delimiting radial walls (62') interposed  
3   between said contact zones (61) in such a way as to insulate them electrically from one  
4   another.

1           5. The connector of Claim 1, wherein said support (60) consists of a groove (63) for  
2   receiving a first cable section (4), wherein said first cable section is connected electrically to  
3   said contact zones (61).

1           6. The connector of Claim 1, wherein said body (70) of said female socket (7) has a  
2   first free end zone (70a), a second free end zone (70b) for coupling with a second cable  
3   section (5), and a middle zone (70c), comprising radial walls (73') that are interposed along  
4   the longitudinal axis of said body (70) and electrically insulate said contact elements (72)  
5   from one another.

1           7. The connector of Claim 6, wherein said second end zone (70b) has bore (75) for  
2   receiving the end of said second cable section (5) and said middle zone (70c) has at least one  
3   circulation channel (76), that is parallel to the axis of said second cable section (5) for  
4   receiving electrical wires (5') of said cable section (5), wherein the electrical wires (5') are  
5   electrically connected to said contact elements (72).

1           8. The connector of Claim 1, wherein each contact element (72) consists of a curved  
2   metallic spring blade of which one end projects in said housing (71) and the other end is  
3   mounted integrally in said body (70) by a connecting component (77).

1           9. The connector of Claim 8, wherein each connecting component (77) consists of a  
2   metallic rivet housed in a radial bore (74') which passes through said axial core (74) of said  
3   body (70).

1           10. The connector of Claim 8, wherein said connecting components (77) are hollow  
2   and serve as a wire guide for the electrical wires (5').

1           11. The connector of Claim 9, wherein said axial core (74) of said body (70) has at  
2   least one flat part (71b) defining the bottom of said housing (71) facing which the projecting  
3   end of said contact elements (72) and said contact zones (61) of male plug (6) is arranged.

1           12. The connector of Claim 7, wherein said body (70) has two diametrically opposed  
2   circulation channels (76) in which the electrical wires (5') of said second cable section (5) are  
3   distributed.

1           13. The connector of Claim 12, wherein said body (70) has two diametrically opposed  
2    housings (71) for receiving two male plugs (6) connected to two electrodes (2).

1           14. The connector of Claim 13, wherein the contact elements (72) of the two housings  
2   (71) alternate with each other with respect to their positions.

1           15. The connector of Claim 6, wherein the tightening device (8) further comprises an  
2   electrically insulating tightening sleeve (80), the tightening device (80) being mounted on  
3   said female socket (7) is moveable along the axis of the body (70) to assert one of the  
4   following positions: an open position in which the tightening sleeve (80) releases said middle

5 zone (70c) of body (70) and allows positioning of support (60) of said male plug (6) in said  
6 corresponding housing (71), and a closed position in which it covers this middle zone (70c)  
7 and exerts a radial pressure on said support (60) in its housing (71) by pressing said contact  
8 zones (61) on said contact elements (72).

1 16. A multiple contact connector comprising:

2 a) one or more so-called male plugs (6), each comprises an elongated and  
3 electrically insulated support (60) and, along the longitudinal axis of said support (60), a  
4 number of electrically conductive contact zones (61);

5 b) a so-called female socket (7), comprises an elongated and electrically  
6 insulated body (70) and, along the longitude axis of said body, at least one longitudinal and  
7 electrically insulated housing (71), wherein said housing (71) further comprises a number of  
8 electrically conductive contact elements (72) positioned along the longitudinal axis of said  
9 housing; and

10 c) wherein said contact zones (61) and said contact elements (72) are facing each  
11 other so that, when said support (60) are put into said housing (71), said contact zones (61)  
12 contact with said contact elements (72) and form electrical connections.

1 17. The connector of Claim 16, wherein the connector further comprises a tightening  
2 device (8) for maintaining said support (60) in said housing (71) and to exert a radial pressure  
3 of contact zones (61) on contact elements (72) to ensure electrical connections.

1 18. The connector of Claim 6, wherein the tightening device (8) further comprises an  
2 electrically insulating tightening sleeve (80), the tightening device (80) being mounted on  
3 said female socket (7) is moveable along the axis of the body (70) to assert one of the

4 following positions: an open position in which the tightening sleeve (80) releases said middle  
5 zone (70c) of body (70) and allows positioning of support (60) of said male plug (6) in said  
6 corresponding housing (71), and a closed position in which it covers this middle zone (70c)  
7 and exerts a radial pressure on said support (60) in its housing (71) by pressing said contact  
8 zones (61) on said contact elements (72).